

**Amendments to the Claims:**

Please cancel claims 2-4, 7, 19, 22, 24, and 26 without disclaimer or prejudice to applicants' right to pursue the subject matters of these claims in the future.

Pursuant to 37 C.F.R. §1.121(c), this listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A substantially purified peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence as provided in SEQ ID NO:4,
  - ii) an amino acid sequence which is at least 60% identical to SEQ ID NO:4,
  - iii) an amino acid sequence as provided in SEQ ID NO:5,
  - iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
  - v) an amino acid sequence as provided in SEQ ID NO:48,
  - vi) an amino acid sequence which is at least 70% identical to SEQ ID NO:48,
  - vii) an amino acid sequence as provided in SEQ ID NO:53,
  - viii) an amino acid sequence which is at least 70% identical to SEQ ID NO:53,
  - ix) a biologically active fragment of any one of i) to viii), and
  - x) a precursor comprising the amino acid sequence according to any one of i) to ix),
- wherein the peptide, or fragment thereof, exhibits antifungal and/or antibacterial activity.

2-4. (Cancelled)

5. (Currently Amended) The peptide ~~according to any one of claims 1 to 4 of claim 1~~ which is fused to at least one other polypeptide/peptide sequence.

6. (Currently Amended) An isolated polynucleotide, the polynucleotide comprising a sequence selected from the group consisting of:

i) a sequence of nucleotides provided in SEQ ID NO:9 or SEQ ID NO:10;

ii) a sequence of nucleotides provided in SEQ ID NO:11;

iii) a sequence of nucleotides provided in SEQ ID NO:12;

iv) a sequence of nucleotides provided in SEQ ID NO:13;

v) a sequence of nucleotides provided in SEQ ID NO:50;

vi) a sequence of nucleotides provided in SEQ ID NO:51;

vii) a sequence of nucleotides provided in SEQ ID NO:55;

viii) a sequence of nucleotides provided in SEQ ID NO:56;

ix) a sequence encoding a peptide according to ~~any one of claims 1 to 5~~ claim 1;

x) a sequence of nucleotides which is at least 66% identical to SEQ ID NO:9, SEQ ID NO:10, or SEQ ID NO:12;

xi) a sequence of nucleotides which is at least 71% identical to SEQ ID NO:11 or SEQ ID NO:13;

xii) a sequence of nucleotides which is at least 62% identical to SEQ ID NO:50, or SEQ ID NO:51;

xiii) a sequence of nucleotides which is at least 62% identical to SEQ ID NO:55, or SEQ ID NO:56; and

xiv) a sequence which hybridizes to any one of (i) to (viii) under high stringency conditions.

7. (Cancelled)

8. (Currently Amended) A vector comprising the polynucleotide of claim 6 ~~or claim 7~~.

9. (Currently Amended) A host cell comprising the polynucleotide of claim 6 ~~or claim 7, or the vector of claim 8~~.

10. (Original) The host cell of claim 9 which is a plant cell.

11. (Currently Amended) A process for preparing a ~~peptide~~ substantially purified according to ~~any one of claims 1 to 5~~.

peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence as provided in SEQ ID NO:4,
- ii) an amino acid sequence which is at least 60% identical to SEQ ID NO:4,
- iii) an amino acid sequence as provided in SEQ ID NO:5,
- iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
- v) an amino acid sequence as provided in SEQ ID NO:48,
- vi) an amino acid sequence which is at least 70% identical to SEQ ID NO:48,
- vii) an amino acid sequence as provided in SEQ ID NO:53,
- viii) an amino acid sequence which is at least 70% identical to SEQ ID NO:53,
- ix) a biologically active fragment of any one of i) to viii), and

x) a precursor comprising the amino acid sequence according to any one of i) to ix),  
wherein the peptide, or fragment thereof, exhibits antifungal and/or antibacterial activity, the process comprising cultivating a host cell according to claim 9 or claim 10 under conditions which allow expression of the polynucleotide encoding the peptide, and recovering the expressed peptide as a substantially purified peptide.

12. (Currently Amended) A composition comprising a peptide ~~according to any one of claims 1 to 5 of claim 1~~, and one or more acceptable carriers.

13. (Currently Amended) A composition comprising a polynucleotide according to claim 6 ~~or claim 7~~, and one or more acceptable carriers.

14. (Currently Amended) A method for killing, or inhibiting the growth and/or reproduction of a fungus and/or a bacteria, the method comprising exposing the fungus and/or bacteria to a peptide ~~according to any one of claims 1 to 5 of claim 1~~.

15. (Currently Amended) A transgenic plant, the plant having been transformed with a polynucleotide according to claim 6 ~~or claim 7~~, wherein the plant produces a peptide ~~according to any one of claims 1 to 5~~ which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence as provided in SEQ ID NO:4,
  - ii) an amino acid sequence which is at least 60% identical to SEQ ID NO:4,
  - iii) an amino acid sequence as provided in SEQ ID NO:5,
  - iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,
  - v) an amino acid sequence as provided in SEQ ID NO:48,
  - vi) an amino acid sequence which is at least 70% identical to SEQ ID NO:48,
  - vii) an amino acid sequence as provided in SEQ ID NO:53,
  - viii) an amino acid sequence which is at least 70% identical to SEQ ID NO:53,
  - ix) a biologically active fragment of any one of i) to viii), and
  - x) a precursor comprising the amino acid sequence according to any one of i) to ix),
- wherein the peptide, or fragment thereof, exhibits antifungal and/or antibacterial activity.

16. (Original) A method of controlling fungal and/or bacterial infections of a crop, the method comprising cultivating a crop of transgenic plants of claim 15.

17. (Currently Amended) A transgenic non-human animal, the animal having been transformed with a polynucleotide according to claim 6 ~~or claim 7~~, wherein the animal produces a peptide ~~according to any one of claims 1 to 5~~ which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence as provided in SEQ ID NO:4,
- ii) an amino acid sequence which is at least 60% identical to SEQ ID NO:4,
- iii) an amino acid sequence as provided in SEQ ID NO:5,
- iv) an amino acid sequence which is at least 80% identical to SEQ ID NO:5,

- v) an amino acid sequence as provided in SEQ ID NO:48,
- vi) an amino acid sequence which is at least 70% identical to SEQ ID NO:48,
- vii) an amino acid sequence as provided in SEQ ID NO:53,
- viii) an amino acid sequence which is at least 70% identical to SEQ ID NO:53,
- ix) a biologically active fragment of any one of i) to viii), and
- x) a precursor comprising the amino acid sequence according to any one of i) to ix),  
wherein the peptide, or fragment thereof, exhibits antifungal and/or antibacterial activity.

18. (Currently Amended) A method of treating or preventing a fungal and/or bacterial infection in a patient, the method comprising administering to the patient a peptide ~~according to any one of claims 1 to 5 of claim 1.~~

19. (Cancelled)

20. (Currently Amended) An antibody which specifically binds to a peptide according to any one of claims 1 to 5 of claim 1.

21. (Original) A method for killing, or inhibiting the growth and/or reproduction of a fungus, the method comprising exposing the fungus to a peptide which comprises a sequence selected from the group consisting of:

- i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,
- ii) an amino acid sequence as provided in SEQ ID NO:17,
- iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,
- iv) an amino acid sequence which is at least 75% identical to any one of i) to iii),
- v) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,
- vi) an amino acid sequence which is at least 50% identical to v), and

vii) a biologically active fragment of any one of i) to vi).

22. (Cancelled)

23. (Original) A method of controlling fungal infections of a crop, the method comprising cultivating a crop of transgenic plants which produce a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,

ii) an amino acid sequence comprising residues 25 to 66 of SEQ ID NO:16,

iii) an amino acid sequence as provided in SEQ ID NO:17,

iv) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,

v) an amino acid sequence which is at least 75% identical to any one of i) to iv),

vi) an amino acid sequence comprising residues 26 to 66 of SEQ ID NO:18,

vii) an amino acid sequence which is at least 50% identical to vi), and

viii) a biologically active fragment of any one of i) to vii).

24. (Cancelled)

25. (Original) A method of treating or preventing a fungal infection in a patient, the method comprising administering to the patient a peptide which comprises a sequence selected from the group consisting of:

i) an amino acid sequence comprising residues 25 to 67 of SEQ ID NO:14,

ii) an amino acid sequence as provided in SEQ ID NO:17,

iii) an amino acid sequence comprising residues 26 to 67 of SEQ ID NO:15,

iv) an amino acid sequence which is at least 75% identical to any one of i) to iii),

Applicants: Peter David East and Susan Elizabeth Brown  
U.S. Serial No.: Not Yet Known  
Filed: Herewith  
Page 10

v) an amino acid sequence comprising residues 26 to 66 of  
SEQ ID NO:18,

vi) an amino acid sequence which is at least 50%  
identical to v), and

vii) a biologically active fragment of any one of i) to  
vi).

26. (Cancelled)

27. (Currently Amended) A kit comprising a peptide ~~according~~  
~~to any one of claims 1 to 5~~ of claim 1.